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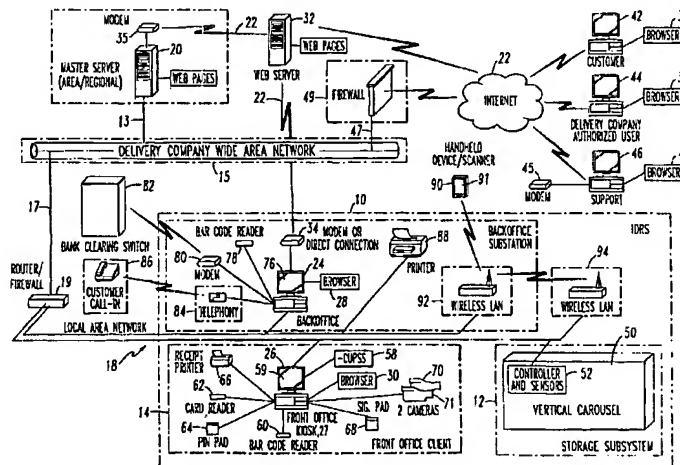
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[Continued on next page]

(54) Title: **ITEM DELIVERY AND RETRIEVAL SYSTEM**



(57) Abstract: An item delivery and retrieval system including a storage subsystem and a computer subsystem. The storage subsystem includes a secure enclosure having an item storage carousel including internal controller apparatus. The computer subsystem is embodied in internet web page based customized application software for implementing an application interface of selectively configurable ActiveX controls for providing user access, such as an employee of a delivery service company and/or a customer of the delivery service company and customer access to one or more storage bins located behind a set of normally closed doors, for providing access control to the bins, and for managing the location of the items in the storage subsystem. The doors are opened when proper identification is provided by the customer so as to permit retrieval of items located in specifically designated bin(s) or to return items thereto.

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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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INTERNATIONAL SEARCH REPORT

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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G06F A47G B65G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 845 747 A (HITACHI LTD) 3 June 1998 (1998-06-03) abstract; figures 1,12 column 2, line 15 -column 3, line 21 column 4, line 24 -column 5, line 18 column 11, line 23 - line 49 column 12, line 36 -column 13, line 48 ---	1-71
X	US 5 113 351 A (BOSTIC STEVE) 12 May 1992 (1992-05-12) abstract; figures 1,38,58 column 1, line 50 -column 3, line 27 column 5 column 7, line 1 -column 9, line 5 ---	1-71
X	FR 2 621 803 A (MAGNAN JEAN CHARLES) 21 April 1989 (1989-04-21) the whole document --- -/--	1-71

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☒ Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 643 479 A (NORMAND JEAN) 24 August 1990 (1990-08-24) the whole document ---	1-71
X	EP 0 821 518 A (SIEDLE & SOEHNE S) 28 January 1998 (1998-01-28) the whole document ---	1-71
A	US 5 385 265 A (SCHLAMP HANS) 31 January 1995 (1995-01-31) abstract; figures 1,2A -----	1-71

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/22306

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0845747	A	03-06-1998	JP 10162065 A	19-06-1998
			EP 0845747 A2	03-06-1998
			US 2001013007 A1	09-08-2001
			US 6085170 A	04-07-2000

US 5113351	A	12-05-1992	AU 5521790 A	22-10-1990
			CA 2050328 A1	30-09-1990
			EP 0465599 A1	15-01-1992
			JP 4506273 T	29-10-1992
			WO 9011582 A1	04-10-1990
			US 5144474 A	01-09-1992

FR 2621803	A	21-04-1989	FR 2621803 A1	21-04-1989

FR 2643479	A	24-08-1990	FR 2643479 A1	24-08-1990

EP 0821518	A	28-01-1998	DE 19649416 A1	05-02-1998
			DE 59707312 D1	27-06-2002
			EP 0821518 A2	28-01-1998

US 5385265	A	31-01-1995	DE 4202801 A1	05-08-1993
			EP 0553470 A1	04-08-1993
			US 5467892 A	21-11-1995
